

Appendix N

Operating Procedures for Abnormal Conditions

1. Capacity Deficiency.

If the required safety margin (generation over demand) begins to shrink, ISO-NE would advise generators and utilities to curtail unnecessary maintenance – service to consumers would not initially be affected. If the region slips below the desired reserve levels, ISO-NE would implement capacity deficiency “NEPOOL Operating Procedure 4,” or OP4.¹

The first action generally implemented under OP4 is an internal Power Caution advisory to government agencies and generators. The next series of actions asks blocks of large customers who have “interruptible” contracts to curtail their loads. If the interruptibles and purchases of power from outside the region are not sufficient to meet anticipated demand for the day, ISO-NE would declare a POWER WATCH, notifying the public, media and government agencies of a supply deficiency and encouraging customers to voluntarily reduce electricity usage. A five percent voltage reduction could also be implemented as a temporary remedy; other than for customers with highly sensitive motors or other electrical equipment, such a voltage reduction would be imperceptible.

In extraordinary circumstances when there is a more urgent need for voluntary load reduction measures to maintain grid reliability, ISO-NE could declare a POWER WARNING, asking the media to use radio and TV to appeal for the public to voluntarily curtail load as soon as possible. If circumstances permit, ISO-NE may ask state governors to personally reinforce the broadcast appeals for load curtailment. Although OP4 actions are generally implemented in a series of steps, under extreme circumstances ISO-NE could implement virtually all OP4 actions simultaneously and without prior warning.

Maine is better situated than other parts of the region from the perspective of the bulk power supply system. It has more than enough generation capacity for its needs and can import additional capacity, exporting the excess out of state. Because the transmission lines connecting Maine’s generators to the rest of the region are usually filled to capacity, Maine would not likely have the same power problems as other parts of New England. Capacity warnings and curtailment requests are generally implemented only where they are beneficial to the overall system. Accordingly, ISO-NE typically exempts Maine from ISO-NE OP4 declarations.

If a power shortage or emergency were to occur on the NEPOOL grid due to unforeseen circumstances, Maine government (including the Governor’s Office, Maine Emergency Management Agency, and the PUC) would receive alerts regarding the status of the electric system from the ISO-NE and CMP. Due to local circumstances elsewhere in the region, ISO-NE could be faced with implementing OP4 measures in some areas of New England where the bulk power supply system may be less robust than in Maine. In that event, ISO-NE

¹ NEPOOL Operating Procedures can be found at www.iso-ne.com/smd/operating_procedures/.

media advisories would clearly state the areas affected by OP4 advisories, and those that would be exempt.

2. System Emergency

OP4 relief measures have always proved sufficient to balance load and generation within New England during capacity deficiencies. If, however, extreme events occur such as the failure of major generating stations or transmission lines when the regional grid is operating in a highly stressed condition in advanced OP4 stages, ISO-NE could declare a SYSTEM EMERGENCY and implement NEPOOL Operating Procedure 7 (OP7). Distribution utilities would be directed to cut power to some consumers, by implementing non-voluntary rotating feeders (“rolling blackouts”) to blocks of consumers – the number and location depending on the size and nature of the power deficiency.

Each block could be without power for a number of hours without prior public notice. Maine T&D utility companies (CMP, BHE, etc.) would be in direct contact with local media and their customers during SYSTEM EMERGENCY conditions. Because curtailment requests are generally implemented only where they are beneficial to the overall system, ISO-NE would in most circumstances exempt Maine from ISO-NE OP7 declarations. New England is the only area of the country that has never had to impose system-wide SYSTEM EMERGENCY rolling blackouts. The Maine PUC Staff participated with CMP, Maine Emergency Management Agency (MEMA), and Maine State Police in an OP7 communications drill in May 2004 to ensure that communications protocols and other emergency response procedures are in place should such a situation arise in Maine.

3. System Blackout

If local power grids were severely affected by a supply imbalance, and implementation of OP4 and OP7 were not sufficient to maintain the integrity of the grid, a widespread electric system blackout could occur. ISO-NE and local utilities would then implement NEPOOL Operating Procedure 6 (OP6), a process to stabilize and bring the power grid system back to normal operation. All major T&D utilities in Maine have developed detailed procedures for response to and recovery from this contingency. Power outage durations would depend on the time it would take to identify and isolate the problem, and a consumer’s location within the system.

MEMA conducted a comprehensive OP6 blackout tabletop exercise on February 17, 2005, involving the State Emergency Response Team (including the PUC), Governor’s Office, key utilities, selected county and local governments, and other organizations. The exercise was designed to identify areas where the State may need to improve its ability to manage extreme power system emergencies. Reviews of exercise issues and lessons learned are ongoing.